



Centers for Transformative Education Research and Translation

Section 10395(2)(a) of the CHIPS+ Science Act establishes Centers for Transformative Education Research and Translation. These Centers would support multidisciplinary research and translation centers to scale up effective pre-K-12 STEM education innovations. As part of this effort to support education research, this effort would also direct NSF to explore opportunities to partner on these Centers with the Department of Education (ED).

Background

NSF would establish a program to award grants to institutions of higher education or non-profit organizations to establish multidisciplinary Centers for Transformative Education Research and Translation. These Centers would support research and development on widespread and sustained implementation of STEM education innovations. Centers would be required to:

- Establish partnerships with local or State districts;
- Conduct programs and activities that support the implementation of promising, evidence-based STEM education practices, models, programs, curriculum, and technologies;
- Support enhanced STEM education infrastructure, including cyberlearning technologies;
- Support research and development that recognizes the diverse needs of educators and learners;
- Focus on under-resourced schools in both urban and rural areas;
- Support the learning needs of students with disabilities; and
- Conduct research to support STEM educators in urban and rural communities.

NSF would also consider how its current INCLUDES and Convergence Accelerator efforts could support the Centers. Additionally, the Centers could consider conducting research on innovative approaches to distance learning, education technology, and how findings could be instituted by K12 districts.

Need

As our education system continues to recover from the impacts of the pandemic, the need for innovative approaches to support learning recovery and acceleration is significant. A report released by Curriculum Associates that analyzed reading and mathematics learning from three million Grades 1–8 students over the last two years showed that fewer elementary and middle school students started the 2021 school year reading and doing math on grade level than in the three years before the pandemic.[1] The future of US competitiveness demands investments in education R&D that can lead to improved teaching and learning methods. The 2018 International Computer and Information Literacy Study (ICILS) showed that U.S. eighth-grade students' average score was not measurably different from the international average on computational thinking. U.S. eighth-grade students in schools with less than 10% of students eligible for free or reduced-price lunch outscored students in schools with 75% or more students eligible by 112 points (557 compared to 444) in computational thinking.[2]

[1]<https://www.curriculumassociates.com/about/press-releases/2021/11/fall-results-2021>

[2]<https://nces.nsf.gov/pubs/nsb20211/student-learning-in-mathematics-and-science#international-comparisons-of-computer-science-performance>